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MASTER
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MASTER´S FINAL WORK
DISSERTATION

THE INTRODUCTION OF A FINANCIAL TRANSACTION TAX IN ITALY

MARCO GULLO

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Abstract

The purpose of this work is to analyse the implementation of the Italian financial transaction tax and present its impacts on revenues and stock market.

We oberve the revenue reports, published by the Ministry of Economy and Finance, to study the evolution of the tax from its introduction to 2015. We look at the impact on stock market in two ways: first, through the event study methodology to assess how Italian banks' share prices have changed due to the introduction of the tax; second, observing the trade volume of the stock exchange in Milan.

The revenues raised by the financial transaction tax have increased year aftter year, but they are still under the government's expectation. The model shows that the tax has impacted negatively the stock prices and moreover the volume data reveals that investors have reduced their activity on Italian securities.

Like in France and how it has happened in Sweden in the late 1980s, the Italian financial transacton tax has a negative outcome on both revenues and stock exchange. Such levy will bring the wanted results only if implemented globally and designed with a wide scope.

Keywords: Italy, financial transaction tax, taxation on financial markets

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1. Introduction

Hostility towards the financial markets has increased following the economic and financial crisis of 2008, which was caused by subprime bubble in the US, along with instable stock prices, exchange rates and commodity prices. Several political parties have put pressure on a new regulation of the financial markets to reduce the speculation and especially to ensure they will make a fair contribution to public finances (EC, 2011). Long ago, Keynes (1936) suggested a tax on stock markets to incentivize the long-term investments. In the 1970's, the economist and later Nobel Memorial Prize, Tobin (1978) revamped the idea of Keynes: a tax with a lower rate, between 0.5% and 1%, on spot currency conversions to penalize short-term currency speculation and stabilize the financial markets. This tax proposal, later known as the Tobin tax, was set aside for a long period of time, but became the main topic of economic debates during the Euro-crisis. Controversies about this tax were argued by Schwert and Seguin (1993) and Habermeier and Kirilenko (2003), who claimed an fiancial transaction tax (FTT) decreases the trading volume and liquidity since investors could move to untaxed markets. They also found it would increase the bid-ask spread, volatility and lead to market distortion. The finding of the politic discussions was a proposal to implement a tax on certain transaction involving financial instruments for instanace shares, bonds and derivate contracts. The European Commission (2011) proposed a harmonised financial transaction tax, known as the EU-FTT, on the basis of a common set of rules. The proposal did not proceed because it failed to achieve unanimous agreement of member states, as required for EU tax harmonization initiatives. Nevertheless, eleven member states have expressed willingness to proceed with the FTT and according to the

enhanced cooperation procedure, have started negotiating and revising the proposed tax. During these negotiations the governments have been free to prepare and put into effect their own FTT, which would be adjusted once the agreement on the EU-FTT is reached. Italy was one of the first countries to implement the tax, which entered into force on 1 March 2013 on equities and four months later on 1 July on derivates. The tax, which aimed to increase the public revenues and regualate the market, did not reach its goals. A significant drop of trade volume on the FTSE MIB had led to unsatisfying revenues and shares price decrease.

1.1. Objective, research questions and methodology

The financial transaction tax is currently subject to a lot of attention because is under consideration in several countries, furthermore the European Commission is working to implement the FTT within some member states. This thesis focuses on the Italian FTT, it aims to analyze its implementation and outcomes on tax revenues and capital market. This work begins providing an overview of the financial transaction tax and the main theories behind it, which proposal is considered as the predecessors of the FTT. Then the paper observes the most relevant experiences on a transaction tax of three different countries and the European Commission proposal to put into effect a harmonised FTT. Afterward, it focuses on the implementation of the Italian FTT and the principles taken into account during this process. Its impact on tax revenues is investigated using the monthly data from the MEF, Ministry of Economy and Finance. The impact on capital market is examined by observing the volume of the FTSE MIB and through the cumulative abnormal returns (CAR) methodology. The analysis inspects the effects on the stock's price of Italian banks around three fundamental periods of time: when the

tax was announced, explained and became effective. The following research questions will be reviewed:

1) How was the FTT introduced in Italy?

2) What was the impact on tax revenues?

3) What was the impact on capital market?

4) What lessons can be drawn from the Italian experience?

To answer the first question, a case-study methodology is employed and presented in chapter 5. Regarding the second question, the evolution of the tax since introduction is assessed on chapter 7.1 using the data from the MEF. Chapters 7.2 and 7.3 examine the third question. There are identified the three fundamental dates of the Italian FTT and for each of those events a CAR model with the 10, 5, 1 days before and after is run with the data from the Italian stock market as well as the trend of volume analysis. A qualitative analyse in chapter 8 is used to answer for the last question.

2. Literature review

2.1. Main concepts

The FTT became well known and popular during the last financial crisis but is not a new idea. Despite several countries have a stamp duty on certain instruments for many decades, the concept was theorised by Keynes in 1936. In his book the economist proposed such tax first to stabilised the markets and second to increase revenues. In the 70s Tobin suggested to tax the currency transactions in order to decrease the volatility on exchange rates. Nowadays any tax on financial transaction is called wrongly the

Tobin Tax. The International Monetary Fund[1] has defined all types of financial transactions tax: the securities transactions tax is due on trades on certain types of securities. The currency transaction tax is a securities transactions tax imposed on foreign exchange transactions. The capital levy is imposed on increases in business capital in the form of capital contributions, loans and issuance of stocks and bonds. The bank transaction tax is due on deposits and withdrawals from bank accounts. The real estate transaction tax is levied on the value of land and structures when sold. Following the financial crisis in 2008, the European Commission proposed its FTT[2], a tax at EU level on the exchange of financial instruments between banks or other financial institutions to create a solid internal market. This tax is still under review, France and Italy have implemented their own taxes on securites transactions while Hungary has opted for a bank and currency transaction tax.

2.2. Main studies

After the great depression in 1929, which started in the United States after the collapse of the stock exchange, Keynes (1936) before all others proposed to tax all the transactions on the stock market. He wanted to hit the speculative bubbles but keep liquidity in the market, thus companies could still have access to capital and the real economy would not be affected. He noted that most of the investors in America tented to chase a short-term capital gain and taking as an example London, where the trading costs were higher, Keynes claimed how a tax could help to reduce the speculation and instability. Those investors were seen as casino players and such tax would make them gambling less on the short-term. Keynes (1936) describes the situation as *"when the*

[1] IMF Working Paper (2011). Taxing Financial Transactions: Issues and Evidence
[2] European Commssion (2011). Memo/11/640

capital development of a country becomes a by-product of the activities of a casino, the job is likely to be ill-done". According to him, the speculators do not allow the right operation of the market because they are driven by expectation on the future price instead of fundamentals, investors should hold their asset longer to stabilize the market. Keynes (1936) concludes his study writing *"the introduction of a substantial government transfer tax on all transactions might prove the most serviceable reform available, with a view to mitigating the predominance of speculation over enterprises in the United States"*.

Keynes' proposal did not receive much attention and was let fall into oblivion until Tobin (1978) introduced a new version, in fact the proposal of Keynes was due on all market transactions, instead Tobin supposed to apply a levy only on currency transactions. Tobin elaborated his theory after the Bretton Woods [3] system was abandonated and investors started speculating on the different exchange rates. He suggested to introduce a small tax on currency transactions to limit the movement of capital between countries and subsequently reduce the volatily of exchange rates. Tobin (1978) wanted to *"throw some sand in the wheels of our excessively efficient international money markets"* to penalize short-term currency trading and support long-term investment which were in line with the countries' needs. To maximize the efficiency of the tax, Tobin suggested to implemented it worldwide, since single initiatives lead only to the distortion of market. Like Keynes' tax, rising revenue is not the main puporse of the Tobin's proposal, both economists suggested a small rate just to

[3] The Bretton Woods agreement was a monetary agreement reached between, at that time, UN members during a conference which took place in Bretton Woods in July 1944. It lead to the formation of the International Monetary Fund, the World Bank and to establish an international monetary system of fixed exchage rates where currencies were pegged to gold. In 1971 the US government suspended the dollar's convertibility into gold starting the end of the system and by March 1973 all currencies began to float against each other.

reduce the speculation and slow down short-term trades. This tax was never implemented but it became actual during the financial crisis when several governments planned to implement a modern interpretation. Stiglitz (1989) agrees a financial transaction tax can reduce speculation and volatility, in his work he defined four characteristics a commodity should have to be taxed by the government:

The commodity being taxed (1) has a highly inelastic demand, so that the tax has little distortionary effect; (2) is a luxury good, consumed by wealthy people so its consuption remains high; (3) is related to a benefit provided by the government and (4) has some socially undesirable characteristics, such as giving rise to a negative externality.

In Stiglitz (1989), p. 101.

Stiglitz argues speculators want to beat the market, have a short-term profit and they might know non-public information, this conduct does not bring benefits to the society, a financial transaction tax would mainly damage them decresing their capital gains and hopefully address them to long-term investments. Stiglitz has moreover pointed out the importance of the financial markets, which must be monitored since are used by companies to raise capital. A financial transaction tax could improve the efficiency of the markets and raises revenues.

Stiglitz "(The Telegraph, 2009)", who was awarded the Nobel Prize in 2011, during a conference in Istanbul has declared that was the time to implement a financial transaction tax, it was even more feasible than when Tobin proposed it. Moreover the economist said *"the financial sector polluted the global economy with toxic assets and now they ought to clean out"*.

Supporters of the FTT include Summers and Summers (1989) who had similar arguments, they agreed a financial transaction tax reduces the speculation and volatility.

In the financial markets there is an excess of volatility which stimulates the speculation, a significant part of it is caused by the noise trading, based on something else, usually irrational technical analysis, instead of fundamental values. This tax could reduce the activity of those traders and consequently the liquidity of the market. According to Summer and Summers (1989) the decrese of liquidy is not a problem for the companies to raise capital since *"a modest transaction tax would not have a major impact on the return to the long-term investors who are the primary suppliers of capital in the U.S. market"*.

Habermeier and Kirilenko (2003) focused their study on the impact of a securities transaction tax. They found out an investor could hesitate to buy some shares because are taxed, this can lead to a lack of liquidity and price discovery. Investor's demand remains not satisfied and the capital will not be well or absolutely allocated. According to Habermeir and Kirilenko (2003), transactions costs are a component of the volatility, along to public-private informations and market frictions, so higher transaction costs impact negatively the volatility. After the implementation of the FTT, the volume can migrate to untaxed market or investors can be attracted by no taxed instruments, for instance derivative products. The authors claimed it is difficult to design and implement a tax that does not favor one portfolio of assets over another portfolio with exactly the same payoff. A financial tranaction tax could meddle between the demand–supply process inhibiting the informational efficiency of financial markets. A 2011 study, conducted by IDS, found the FTT feasible and able to bring in revenue even if implemented individually. The IDS (2011) researchers see the tax as double-edged sword that reduces volatily, but could also increse it as is related to transaction costs, liquidity and volume. *"It would be unlikely to stabilise financial markets but,*

appropriately designed, also unlikely to destabilise them" this study noted. Regarding the negative effect of a financial transaction tax, Schwert and Seguin (1993) argued that such tax decreases the trading volume as result of the migration to cheaper markets. Like Habermeier and Kirilenko (2003) they believe it would impact the bid-ask spread and volatility. Their work concludes that there is little evidence that the costs resulting from a transaction tax outweight the potential benefits due to tax incidence and avoidance. A Dutch study (CPB, 2012) found "*little evidence for corrective properties of the FTT*". The authors state higher transaction costs do not reduce volatility or asset price bubbles, the FTT raises revenues but on the other hand decreases the volume as investors and financial instruments move to other markets. They suggest alternative levies to collect revenues and correct distortions of the market. Another study (Wyman, 2012) agrees the FTT increases significantly transaction costs. According to the authors the most liquid and traded products are impacted more than speculative trading, because of their tight bid-ask spread and difficulty to move outside the tax scope, the reduction of trading leads to lower volume and liquidity, making the costs of the FTT bigger than its revenues.

2.3. Arguments for and against the FTT

The pros: 1) raise revenues; 2) curb speculation; 3) encourage market stability. The cons: 1) implementation at EU-28 level; 2) decrease market volume ; 3) lower liquidity.

2.3.1 The advantages

The tax revenues would help countries towards fiscal consolidation to recover the costs of the crisis without impacting the real economy as well as compensates the VAT

exemption status on financial services. The FTT discourages short-term investments and excessive trading that destabilize the market by reducing the profitability of those transactions and fosters investors to hold their assets, chosen by fundamental values, for longer periods.

2.3.2. The disadvantages

The FTT gives its best if implemented on large-scale. Some European countries have already taxes on financial transactions and the EC proposal is well-liked by them, but a hamonized tax might be incompatible with other members states due to the residence and issuance principles since it can have extraterritorial effects. A study (PwC, 2013) claims that the financial sector has already a higher tax level than average and this free-VAT status brings a hidden tax which was equal to EUR 33 billion in 2007. Oxera (2012) argues the tax will have a negative impact on GDP growth and estimates this loss to be greater than FTT's revenues. The design of the proposed FTT allows the financial institutions to charge final consumers all the costs of the tax, as a result investors may limit their activity which causes lower liquidity and higher price volatility in the markets.

3. Country experiences

This section includes the European countries where a FTT is currently effective. Furthermore it spends few words on Sweden, which has implemented the tax in the past and is considered as the most negative experience with such tax. The Italian FTT is

explained in chapter 5, while a summary prospectus of these European FTTs and their outcomes is provided by table I of the appendix.

3.1. France

France, struck severely by the crisis, was the first country in Europe to have implemented a FTT to increase the public revenue and regulate the market. It was approved by the parliament in March 2012 by the *Loi de finances* to come into force from the 1st of August 2012. It is composed by three subtaxes on different financial transactions. The TAAF, *taxe sur les acquisitions d'actions,* has a rate of 0.2% on the purchase value of share. It applies only on shares issued by companies with headquarter in France, listed on the Euronext Paris, the French stock exchange, and having a market capitalization over EUR 1 billion on the 1st of December preceding the year of taxation. The list of companies subject to such tax is published yearly by the Ministy of Economy and Finance. Every purchase of French shares quoted in Paris is subject to the tax, independently of the location where the transaction was made. Some transactions are exempt from the TAAF, including share purchase on the primary market, transactions made by clearing houses and CSDs, central securities depositaries, operations made to ensure the liquidity of the maket, share purchase between companies of the same group, securities lending and purchase of convertible bonds. The tax is due on the net position on the settlement day and must be declared and paid by the 25th day of the month after the acquisition. The tax is paid by the financial broker who has executed the buy order or, when that is not applicable, by the financial institution who holds the assets for the client. Euroclear France, the French clearing house and intermediary between buyer and seller, collects the tax revenues and later transfer them to the French treasury. In the

summer 2012, a financial reform extended the application of the TAAF to ADR, American depositary receipt, with effect from the 1st of December 2012. The TTHF, *taxe sur le trading à haute fréquence,* is imposed to all companies operating in France with a rate of 0.01%. The high frequency trades are determined by the law and consist in all the buy, sell or modify orders on a single equity separated by less than 1 second, later reduced to 0.5 second. Moreover a proportional principle was added to the TTHF, in particular the orders of cancellation or modification that exceed the 80% of the total orders made in a trading day by the same operator are also taxed. The TCDS, *taxe sur achat de credit default swaps,* is due on the purchase of a naked CDS of an European country. All the investors who hold such instrument are subject to the tax at 0.01% of the notional value of the swap contract. The French government was expecting revenues of EUR 530 million in the first year of application, but it raised only EUR 200 million. 99.5% of the revenues came from the TAAF, 0.5% from unfunded credit insuarance while the TTHF did not raise any revenues. Impact on the financial market is not clear, especially about the volatility (PwC, 2013).

3.2. Hungary

In 2012 the Hungarian goverment announced a temporary FTT to balance the debit. The scope of the tax is different from the French and the EU proposal, since the H-FTT is restricted to certain types of transactions like money transfers, banking and currency exchange. The tax was approved by Act 116 with effect from the 1st of January 2013. The tax rate was fixed at 0.01% of the amount of the transaction and the duty amount payable was capped at HUF 6,000 per transaction. Before the tax came into force, the rate was increased to 0.2% and later to 0.3%. All financial service providers with an

office or branch in Hungary are subject to the FTT. The government had also planned to extend the scope of the tax to transactions on the seconday market, introducing a levy of 0.1% on securities and 0.01% on derivatives transactions. Those proposals have not been implemented yet because the Hungarian government would like to make them effective after the approval of the EU-FTT. Just six months after the implementation of the H-FTT, the parliament made some changes with effect from the 1st of August 2013. The tax rate on wire transfers was increased from 0.2% to 0.3% keeping the cap at HUF 6,000 and the rate on cash withdrawals rised from 0.3% to 0.6% without cap. Moreover was introduced a temporaney tax of 208% on the cash payment occurred between January and April 2013, this tax was applied on banks operating in Hungary only. The exemptions and exceptions include money transfers between two accounts of the same owner held at the same bank, qualifying payments, money transfers to or from the Hungarian State Tax Authority, transfers booked from abroad are exempted (while the transfers made in Hungary and paid outside are subject to the tax) and payments by credit card are not taxed individually but a fixed amout of HUF 800 is due by the 20th of January of each year. The tax is paid on a monthly basis by the financial services provider to the Hungarian State Tax Authority, by the 20th of the month following the transaction. The H-FTT raised less revenues than expected during the first four months of 2013, HUF 38.8 billion instead of 82 billion predicted by the government (PwC, 2013).

3.3. Sweden

The Swedish government following the protests of the labour sector who demanded more rules on the financial market, judged guilty of destabilise the economy, introduced

a tax of 0.5% on transactions of shares and options on shares in January 1984. The levy was due on trades made in the country via a Swedish brokerage firm while trades between dealers were exempted until 1987. In July 1986 the government increased the rate to 1% and later, in January 1987, the scope of the tax was extended to fixed-income securities with three different rates depending on the maturity of the asset: 0.002% if the maturity was up to 90 days, 0.01% if the maturity was up to 1 year and 0.03% if the maturity was longer than 1 year. The derivatives were also included in the new reform with a levy of 0.15% of the nominal value of the underlying asset. The government was expecting revenues for SEK 1,500 million per year, but in avegave the tax raised around SEK 50 million per year during the 8 years period of implementation (Wrobel, 1996). However the main effect of the tax was on the market. If Swedish inverstors decided to decrease their activity, the foreign investors took away their money from the market. In fact most of the trade on Swedish shares migrated to London. From the last half year of 1986 until the end of 1987 the turnover on shares fell by 30% and during the first week of implementation the trading volume of bonds fell by 85%, futures by 98% and the devivatives almost disappeared from the market (Wrobel, 1996). The drop of the trade volume caused a collapse of prices and as result a decrease of revenues from the capital gain tax. Due to those mediocre results the tax on fixed-income securities was abrogated in April 1990, while the tax rate on shares was first halved in January 1991 and completely eliminated in 1992. Umlauf (1993) analysed the impact on the market, he claims price volatility did not decrease after the tax was implemented. Magnus Wiberg (FT, 2013), former economist at the Swedish Ministry of Finance, started an open letter to the European Commision with this sentence *"we tried a Tobin tax and it didn't work"*. He analyzed the Swedish transaction tax and its effects which were more

negative then positive, because that small amount revenue can not justify all the consequences on the market.

4. The EU proposal

After the financial crisis several member states were planning to introduce financial transaction taxes, but since single initiatives could caused frictions on the European market, Jose Barroso, president of the European Commission, proposed in September 2011 to implement a harmonised FTT. The objectives of the proposed tax were to prevent the fragmentation of the single market, ensure that the financial sector made a fair and substantial contribution to public finances and discourage speculative financial transactions. The proposal would apply to all operations on the financial markets only if one part involved is based in a member state. The rates were set at 0.1% for shares and bonds, whereas derivatives at 0.01%. The European Commission expected to generate revenues for EUR 57 billion yearly. The EU-FTT did not come into force because the finance ministers did not reach the unanimous agreement required to approve laws within the EU. However some member states have expressed their support for the proposal and decided to proceed with the FTT under the enhanced cooperation, a procedure which allows few member states to implement laws just among them, other member states would be free to join the group later. In December 2012 the proposal, know as the EU-11 FTT becasue eleven countries supported it, got the consensus of the European Parliament and one month later the European Council gave its authorisation to go ahead. The United Kindom, who was one of the countries adverse to the proposal in 2011, has also challenge the enhanced cooperation. After the deadline, set on the 18th

of April 2013, to present a petition, it came out that the English government has mounted a legal challenge against the EU-11 FTT. It was not made to complain about the FTT but the use of the enhanced cooperation for its application. Indeed as decided by the EU, the enhanced cooperation can go ahead only if the measures adopted do not infrange the rights, internal market and competition of not participating member states. In particular the English government complained this implementation violates the Articles 326 and 332 under the TFEU, Treaty on the Functioning of the European Union. Naturally this lawsuit and debates among the eleven member states on the scope and exemptions of the FTT had a negative impact on the implementation process, as the FTT was continuously postponed. In June 2013 the ECON, the Committee on Economic and Monetary Affairs, who had a consultative role, voted in favor of the proposal and suggested some changes, in particular to apply the same tax rates in the FTT zone, tax benefits for pension funds, sovereign bonds and short-term repos, to adopt the ownership principle to in addition to the residence and issuance principles. Later in 2013 the Council Legal Service has issued an opinion about the establishment principle which foresees that an entity outside the FTT area when does a transaction with a counterparty inside the FTT area requires both parties to pay the tax. This is a case of extra territorial effect of the tax, like the doubts of the United Kindom. According to the Council this principle was not acquiescent with the European legislation, in fact it breaks the laws under the Maastricht Treaty, violates the tax competence of the non-participating member states (Article 327 TFEU), so it could lead the original idea of the single market where the member states should compete on equal terms. This was a good point in favour to the United Kindom's challenge, but in April 2014 the Court of Justice of the EU has finally disclosed its judgment on the use of the

enhanced cooperation procedure to impletment the FTT in some member states. The English legal challenge was reject by the CJEU stating it was premature, because its argumentations was based on the draft, which was not included in the decision to authorise the enhanced cooperation. When the FTT will come effective, the United Kindom or any other non-participating country could challenge the provisions adopted. Since then several discussions among the participating member states, even in informal meeting have happened. There were just too many elements of the tax under consideration, scope, principles and exemptions, to reach an agreement. The process was going slowly and the possibility of a phase introduction took place. During a press conference in February 2014, both A. Merkel and F. Hollande have expressed their intent to work on the FTT. Hollande even said to prefer an imperfect tax to no tax at all. But those countries were arguing on the FTT's exemptions: France wanted exempted derivatives while Germany was unfavorable. In 2015, the Presidency of the Councul of the European Union was under Latvia and Luxembourg, two countries who were adverse to the tax, so the FTT was not on the top of the agenda and few little progress have been made in this period of time. The environment was still uncertain and concerns about the scope of the tax for derivatives, revenue collection mechanism and sharing, residence versus issuance principle were outstanding. No significant step in the negotiation was made and the potential implementation was postponed to the second half of 2017 or 2018. Considerable upgrades have happened during the winter 2015, since a statement from the partecipating member states was released. The economic and financial ministers have met several times and an agreement of the features of the FTT on shares and derivatives was reached. Other financial instruments, like bonds, were not mentioned on the statement, meaning that might be the possibility to limit the scope of

the tax. In particular the FTT first could be limited to shares issued by the partecipating countries and later tax other instruments. Moreover an agreement was made on the jurisdictional scope of the tax, it would be, as proposed by the European Commision in 2013, a mix between the residence and issuance principles. A partial agreement was reached on the tax rate for derivatives and exemptions. The rate for shares would be on a gross basis rather than the settlement position. However, the Estonian government has left the enhanced cooperation becasue the new agreements were too far away from the initial proposal, so the EU-FTT continues with ten member states.

5. The Italian FTT

Taxation on financial transactions is not a completely new concept in Italy. In 1923 was introduced the *fissato bollato* via *regio decreto legge*, R.D. 30.12.1923 n° 3278, a deed with effect of law issued by Umberto II, the king of Italy. It was a document, subject to stamp duty containing all the data of the two parties and the transaction itself: type, amount of shares, price and potential maturity. The *fissato bollato* was exclusively implemented to raise revenue on any operations on the Italian stock market, taxed at 1.4 ‰. To avoid disadvantages of the Italian operators compared to their European competitors, the tax was heavily modified with the Visco's reform, D.Lg. 21.11.1997 n° 435, introducing exemptions on all equity contracts traded on the regulated market and extending its scope to contracts stipulated with a foreign operator. Ten year later, when the law *milleproroge* came into force, D.L. n° 248, the *fissato bollato* was definitively abolished. In 2007 the huge costs of the crisis have brought the nation's resources to their knees, a tax on the financial market has been broadly discussed in Italy to raise

money and regulate the market. The implementation of the FTT was proposed to the chamber of deputies on the 27th of May 2011 by a group of eleven members of the parlament. This was just a general proposal where after starting the causes and consequences of the recession, the group suggested a low tax rate to make the levy more efficient. They hypothesized a 0.05% rate on any transaction to be paid by both buyer and seller, so in this way the FTT would have be influential to the parties and rise revenues. The group has moreover reiterated the collateral effect of the tax, such as the FTT would not be efficient if implemented by only one state, because the trade could migrate to a free-tax market. For that reason, the tax in Italy should come into force after other member states have implemented a similar *levy*. On the 28th of June 2011, the government has declared the intention to put into effect a FTT by the end of the year along other financial taxes, in particular an increase of the capital gain tax to 26%. All transactions of financial instruments concluded in Italy would be subjected to the tax at 0.05%, one-third cheaper than the old *fissato bollato*, to be paid by the bank or the investment company who cloncluded the transaction. Following this announcement the FTSE MIB lost 24.46% and complaints were growing between the *Piazza Affari's* operators. Without an European harmonization the Italian stock maket was about to be offside, the most expensive of Europe and since buying Italian stocks is mandatory for nobody, the forecast of Milan's exchange was not rosy as most of the investors would migrate somewhere else cheaper. The proposal never came into force, first because of the protests of the market and intermediaries, second because the EU Commission in September 2011 proposed the introduction of an harmonised FTT within the member states, effective from the 1st of January 2014. When Italy has decided to join the enhanced cooperation, was also decided to introduce a local version of the tax as done

by France, which will be replaced by the European FTT once implemented. The italian FTT came into force with *Legge di Stabilità* 2013 n° 228, launched on the 24th of December 2012. During the design of tax, the French FTT was taken as relevant legislation causing several similitaries. The I-FTT applies to three types of financial transactions: shares (and participating financial instruments), derivatives on shares and high frequency trading.

The FTT on shares, issued by companies with legal residence in Italy, was effective from the 1st of March 2013 with a tax rate of 0.2%, but only for the year 2013 the tax rate was increased to 0.22%. A reduced tax rate of 0.10%, 0.12% of the the year 2013, is due on transaction on regulated market and multilateral trading facilities. The transfer of the ownership of securities representing equity investment is also subject to the FTT. Like the French tax, the taxable amount is calculated on the net position on a single asset traded on the same day, that is to avoid a negative impact on trade and liquidity. The FTT must be paid by the 16th day of the following month when the transaction is made. The operations outside the scope of the tax are: inheritance or donation of shares, buy-sell back or sell-buy back transactions, transaction on the primary market (newly issued shares), temporary purchase of shares, transaction between companies of the same group and shares or units in collective investment undertakings. The FTT is due only on shares issued by a company with a market capitalization over EUR 500 million as of the month of November preceding the fiscal year, the list is published annually by the MEF, and does not take into account the place of residence of the investor and the place where the transaction is concluded. The bank, trust or investment company who are involved on the transaction pays the tax. From the 1st of July 2013, the scope of the FTT was extended to derivatives on stocks. The duty on such

instruments is due by both counterparties to the transaction and is fixed depending on the type and notional value of the contract[4]. As for the FTT on stock, the amount is reduced if the transaction takes place on regulated market or multilateral trading facilities. The FTT on derivatives is due independently on the location where the trade is excecuted and where the contracting parties reside. Are exempted derivatives on bonds, market making transactions and transactions which the counterparty is the European Union, European Central Bank, central bank of a European member state and international organization who manage the reserve of a country. The FTT on high frequency transaction was effective in two steps: on the 1st of March 2013 for transaction on stocks and 1st of July 2013 on derivatives. It was implemented to limit the activity of high frequency trades, considered an instability factor. For high frequency trading the law means the operations produced by an IT algorithm which determines automatically decisions on dispatch, edit or cancellation of an order. Those operation to be defined as HFT must happen within an interval not higher than 0.5 seconds. The tax is applicable only when the total cancelled or/and modified orders on a single financial instrument and in a single trading day exceeds the 60% of all the entered and modified orders on the same asset. The tax rate is 0.02% on the value of the cancelled and modified orders. Are excluded from the tax bonds and debt securities transactions, repurchase of securities by the issuer, purchase of newly issued shares, conversion of bonds in newly issued shares and buy-sell back or sell-buy back transactions.

[4] Table II in the appendix provides the amounts due on derivatives

6. Methodology and data

6.1. RQs and source information

The RQs this thesis answers are: What was the impact on tax revenues? What was the impact on capital market? What lessons can be drawn from the Italian experience?

The revenues of the FTT are published monthly by the MEF. The adjusted closing prices and the volume data to review the impact on the market are available on Yahoo Finance and Bloomberg respectively.

6.2. The variables

The impact of the FTT on the Italian stock exchange is assessed using two variables: a company and the Italian index. In particular to test how the stock price reacted to the FTT, the adjusted closing price of both variables was collected over a period of 273 days. As dependent variable (Y) was chosen to use several banks because due to their business they would be the most affected by the FTT and using more than one bank would give a clearer view about the consequences of the tax. Since the FTT is due only on public companies, to assess its impact were selected Italian banks[5] quoted in Milan with a market capitalization over EUR 500 million and so subject to the tax, the impact of the FTT will analysed individually on each bank. The independent variable (X) is the FTSE Italia All-Shares index, which includes all the companies listed in Milan.

[5] The bank included on this work are: Unicredit, Intesa Sanpaolo, Mediobanca, UBI banca, Banco popolare, Banca popolare dell'Emilia Romagna, Banca popolare di Milano, Monte dei paschi di Siena, Credito Emiliano, Banca popolare di Sondrio and banca Carige.

6.3. The model

The method used to measure the impact of the FTT on the bank's share price is the event study. This methodology assesses how a particular occurrence has influenced the value of the company through the cumulative abnormal returns over a period of time around the event, called the event window. The abnormal return, which could be positive or negative, shows if the security has over or underperformed than expected.

This methodology entails to use the regression analysis to derive the relationship between the two variables, needed to calculate the cumulative abnormal returns. The model, which involves the actual returns of the variables, is known as classic linear regression model and is explained by the following equation:

(1) $y = \alpha + \beta x_t$ $(t = 1, \ldots, n)$

The regression coefficients of the model are obtained over an estimation window, a period of time preceding the event window, to ensure they are not conditioned by the event itself.

Since only the adjusted closing price P_t of the variables were collected online, the actual returns R_t is calculated for both the estimation and event windows using the following formula:

(2) $R_t = (P_t - P_{t-1}) / P_{t-1}$ $(t = 1, \ldots, n)$

The actual returns of Y and X of the estimation window are usued to determine the coefficient for α (the intercept) and β (the slope). The coefficient are given by the ordinary least squares formulas. The slope equals to the covariance of Y divided by the variance of X and the intercept equals to the average of Y minus the slope multiplied by the average of X. Alternatively, the excel functions, *intercept* and *slope*, could be used to determine these coefficients.

The intercept is the value taken by Y if X would be equal to zero. While the slope is the impact factor of X on Y. For instance if X rises by 2%, then Y is expected to change by 2β. Moreover to have an idea of how confident are the estimated parameters, the standard error, SE, is obtained from the estimation period data using the *steyx* excel formula. The lower is the SE, the more trustworthy is the estimation. Furthermore, to evaluate how well the regression fit the data, we calculate the R-Square, using *rsq* excel formula which ranges from 0 to 1, the higher value the best the model fit the data. R-Square also indicates the variability explained by the regression. The ramaining variability, $1 - R^2$, is explained by the error.

Only for the event window is calculated the daily expected return of the company using the model equation:

(3) $E[R]_t = \alpha + \beta x_t \qquad (t = 1, \ldots, n)$

The abnormal return is simply the difference between the actual return and the expected return of the company and is obtained on each day of the event window:

(4) $AR_t = R_t - E[R]_t \qquad (t = 1, \ldots, n)$

The sum of the abnormal returns of days around the event date gives the cumulative abnormal return, a second proof if the event has had an influence not only on the date itself.

There are three significant events associated with the introduction of the FTT in Italy, thus the models described above would be run for each single event.

6.3.1. Model A

This model analyses the impact of the FTT on stock prices when the Italian government has announced, on the 9th of October 2012, its intention to introduce a financial

transaction tax. To calculate the relationship between the banks and the index is usued an estimation window from the 7th of October 2011 to the 24th of September 2012, while the CAR would be obatained over the event window starting on the 25th of September to 23rd of October 2012.

6.3.2. Model B

This model analyses the impact of the FTT when the government explained how the FTT works on the 24th of December 2012. For the estimation window are used the returns between the 22nd of December 2011 and 7th of December 2012, the event window goes from the 10th of December 2012 to 11st of January 2013.

6.3.3. Model C

This model analyses the impact of the FTT when the tax came into force on the 1st of March 2013. The estimation window includes the data from the 29th of February 2012 to the 14th of Februry 2013, while the event window the ones from the 15th of February to the 15th of March 2013.

7. Results

7.1. The impact on tax revenues

Despite the FTT came into force in March for share and in July for derivative, the first payment was due by the month of October 2013, while the following payments were set monthly, by the 16th of the month successive to the transaction. The revenues are summarized in table III of appendix. For the year 2013 the government was expecting to

collect EUR 493 million, but the revenues were just EUR 260 million, 47% less than predicted, in detail 159 million in October, 57 million in November and 44 million in December. Most revenues came from the tax on stock which raised 253 million, while the tax on derivative and high frequency trading generated revenues for 6.4 million and 211 thousand. Following this poor result, the government has revised downwards the revenues estimations and for the 2014 expected around EUR 371 million. That year was the first one when the FTT three taxes were effective during the twelve months. It were raised EUR 401 million thanks to an increase in all the three sub-FTT. As has happened in 2013 the main part was done by the levy on shares which raised EUR 372 million, a big step up was done on the derivatives side where were collected EUR 29 million, while the revenues from the high frequency trading remained negligible since raised only EUR 378 thousand. The tax return kept growing also in 2015, indeed from the period January – December the total revenues amount to EUR 480 million against the 375 million forecasted by the government. Analysing deeply the FTT's revenues, which have incresed every year, the 1.141 billion raised during the three-year period, could be seen as a gross amount since it does not include its own costs. Any tax has some expenses, in fact verify and collect revenues has operating and personnel costs. Moreover the FTT has some byproducts: it increased the expenses of the traders, who need to declare and settle the tax and, as a result, their taxable income is lower thus the government will raise less revenues on them.

7.2. The impact on stock prices

7.2.1. Model A: The impact when the tax was announced

Table I
The relationship between the banks and the index

	Unicredit	Intesa Sanpaolo	Mediobanca	UBI	Banco Popolare	Banca Popolare Emilia	Banca Popolare Milano	Monte Paschi Siena	Credito Emiliano	Banca Popolare Sondrio	Banca Carige
Alpha	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Beta	2.00	1.81	1.32	4.77	1.62	1.62	1.63	1.57	1.17	0.97	0.95
R^2	0.69	0.83	0.62	0.02	0.56	0.61	0.49	0.43	0.48	0.50	0.33
SE	0.03	0.02	0.02	0.64	0.03	0.02	0.03	0.03	0.02	0.02	0.03

Examinating the R-Square values is possible to note that the model fits well the data for all banks except for UBI. The efficiency of the model is also confirmed by the Standard Errors, all the values are very close to zero meaning the estimated parameters are reliable. The CAR analysis of UBI is not included due to untrusted figures.

Table II
The cumulative abnormal returns

Days	Unicredit	Intesa Sanpaolo	Mediobanca	Banco Popolare	Popolare Emilia	Popolare Milano	Monte Paschi Siena	Credito Emiliano	Popolare Sondrio	Banca Carige
-10	0.05	0.04	0.05	0.04	0.01	0.02	0.03	-0.02	0.01	0.00
-5	0.03	0.01	0.01	0.02	0.03	0.01	0.01	-0.03	0.00	0.04
-1	0.01	0.00	0.02	0.00	-0.01	0.00	0.01	-0.01	0.00	0.00
Event	0.01	0.00	-0.02	-0.01	0.02	0.00	-0.02	0.00	-0.01	0.00
+1	-0.01	0.00	-0.01	0.00	0.00	-0.01	-0.03	0.00	-0.01	-0.01
+5	0.01	0.01	0.00	0.01	0.05	0.01	0.00	-0.01	-0.04	-0.02
+10	0.05	0.02	0.07	0.04	0.07	0.07	0.03	0.02	-0.02	0.00

The sum of the abnormal returns of the 10 days prior the event is negative only for Credito Emiliano and Banca Carige. The CAR of the 5 days before the event shows Credito Emiliano still keeping underperform. On the day before the event only Banco Popolare, banca popolare dell'Emilia Romagna, Credito Emiliano and Banca popolare di Sondrio had negative abnormal returns. On the 9th of October, the event day, only Unicredit, banca popolare dell'Emilia Romagna and Credito Emiliano returned more than expected. Banca dell'Emilia Romagna was the only one to overperfrom the day after the announcement. The CAR of the five days after the event is negative only for Mediobanca, Credito Emiliano, popolare Sondrio and banca Carige. Those last two performed less also the 10 days after the event.

7.2.2. Model B: The impact when the tax was explained

Table III
The relatonship between the banks and the index

	Unicredit	Intesa Sanpaolo	Mediobanca	UBI	Banco Popolare	Banca Popolare Emilia	Banca Popolare Milano	Monte Paschi Siena	Credito Emiliano	Banca Popolare Sondrio	Banca Carige
Alpha	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Beta	1.97	1.71	1.40	3.33	1.72	1.90	1.84	1.60	1.18	1.17	1.05
R^2	0.67	0.82	0.61	0.01	0.57	0.74	0.58	0.39	0.43	0.59	0.33
SE	0.02	0.01	0.02	0.68	0.02	0.02	0.03	0.03	0.02	0.02	0.02

According to the R^2 values the goodness of fit for the model is confirmed for all the banks excluding UBI. Like in the previous model, it has a low R-Square and high Standard Error. The outcome of the model regardng UBI can not be trusted. The confidence in the estimated parameters for the remaining companies is reiterated by the Standard Erros, as their values are close to zero.

Table IV
The cumulative abnormal returns

Days	Unicredit	Intesa Sanpaolo	Mediobanca	Banco Popolare	Popolare Emilia	Popolare Milano	Monte Paschi Siena	Credito Emiliano	Popolare Sondrio	Banca Carige
-10	-0.05	-0.06	0.04	0.01	0.03	0.00	0.01	0.05	0.00	0.07
-5	0.00	-0.03	0.04	0.02	0.00	-0.02	0.03	0.06	0.02	0.02
-1	-0.01	-0.01	-0.01	-0.02	-0.01	-0.01	-0.01	0.02	-0.02	0.00
Event	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
+1	0.00	0.01	0.01	0.02	0.01	0.02	0.02	0.00	0.00	0.01
+5	-0.02	0.00	0.02	0.01	0.02	0.02	0.14	-0.01	0.02	0.01
+10	0.01	0.03	0.08	0.10	0.04	0.00	0.22	-0.01	0.07	0.10

The event has impacted negatively the stock prices over the 10 days before period only UniCredit, Intesa Sanpaolo, popolare Milano and popolare Sondrio. Those banks, excluding popolare Sondrio, have also underperformed in the -5 days CAR period. The day before the event all the banks, excluding Credito Emiliano, were underperforming. The announcement was made on the 24th of December, a bank holiday day thus the market was closed. When the market reopened only Unicredit and Credito Emiliano had negative abnormal returns. The same situation remained on the 5 days after the event, but on the +10 car period while Unicredit has divertend the trend, Credito Emiliano kept underperforming.

7.2.3. Model C: The impact when the tax came into force

Table V
The relationship between the banks and the index

	Unicredit	Intesa Sanpaolo	Mediobanca	UBI	Banco Popolare	Banca Popolare Emilia	Banca Popolare Milano	Monte Paschi Siena	Credito Emiliano	Banca Popolare Sondrio	Banca Carige
Alpha	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Beta	1.76	1.66	1.32	3.33	1.63	1.89	1.65	1.49	1.16	1.19	1.05
R^2	0.81	0.83	0.63	0.01	0.61	0.77	0.59	0.39	0.50	0.63	0.36
SE	0.01	0.01	0.02	0.67	0.02	0.02	0.02	0.03	0.02	0.02	0.02

The R-Square and Stand Error figures prove that the model fits well the data. As happened for the previous two models, the estimation for UBI is not reliable since it has a low R^2 and a high Standard Error, is not included on the CAR analysis.

Table VI
The cumulative abnormal returns

Days	Unicredit	Intesa Sanpaolo	Mediobanca	Banco Popolare	Popolare Emilia	Popolare Milano	Monte Paschi Siena	Credito Emiliano	Popolare Sondrio	Banca Carige
-10	-0.05	-0.05	-0.12	-0.04	-0.02	-0.03	-0.04	-0.13	-0.04	-0.08
-5	-0.03	-0.05	-0.11	-0.05	-0.01	-0.04	-0.04	-0.10	-0.03	-0.09
-1	-0.01	-0.02	-0.03	0.00	-0.02	-0.01	0.01	-0.02	-0.02	-0.03
Event	0.01	0.02	-0.02	-0.01	0.03	0.00	0.00	0.00	0.02	-0.05
+1	-0.01	-0.02	-0.04	-0.01	0.04	0.01	-0.02	0.01	0.01	0.03
+5	-0.03	-0.04	0.00	-0.11	-0.05	-0.06	-0.02	0.02	-0.03	-0.04
+10	-0.05	-0.05	-0.03	-0.16	0.04	-0.12	0.00	0.05	-0.03	0.04

The sum of the abnormal returns of the 10 days preceding the events shows how the market had anticipated the news, indeed all the banks had negative CAR. The situation did not change during the -5 CAR period, while on event prior day only Monte dei Pashi di Siena switched to a positive CAR.

On the 1st of March, when the FTT was effective, only Mediobanca, Banco Popolare, Popolare Milano and banca Carige had a lower return than expected.

The day after the event banco Popolare dell'Emilia Romagna, Popolare Milano, Credito Emiliano, Popolare Sondrio and banca Carige were overperforming while on the 5 days after the event Credito Emiliano was the only one to have a positive CAR. Popolare dell'Emilia Romagna and banca Carige along to Credito Emiliano outperformed all other banks on the CAR_{+10} period.

7.3. The Impact on the trade volume

Another way to assess the impact of the FTT on the stock market, is to have a look at the trade volume[6], the number of shares traded over a particular period. Can be used a similar methodology to the one performed for the CAR model, that is to inspect the volume and its variation on the days around the three events.

It was chosen the FTSE MIB as is made up mainly of companies subject to the FTT.

On the 5th of October 2012, few day before the event, both the price (+2.35%) and the volume (+14.60%) went up, this is certain a good sign, since it shows interest in the market, a potential profit always attracts investors. The day after the maket and the volume lost 1.98% and 32.55% respectively, while on the event day the market decreased by 0.37% but the volume increased by 42%, any price movement on large volume is a sign something has changed. The same scenario was seen after the announcement, when the price ranged between -0.41% and +1.26%, and the volume between -20.45% and +31%.

[6] Figures I, II and III of the appendix provide the volume data around the three events

The day when the government explained the FTT was the 24th of December, a market holiday, some opponents stated it was made on Christmas eve to avoid a big shock, which anyway happend on the next working day. Indeed on the 27th of December, even if the price increased by 0.46% the volume dropped by 23.54%, meaning that the investors did not find the Italian market attractive. Later the trade volume started rallying: went down by 17.21%, then increased by 79.36%, the day after decreased by 24.5% and on the 4th of January raised by 102.65%.

Two days before the FTT came into force even if the price was 1.77% higher, the volume decreased by 45.36%, a clear warning of attraction shortage in the market.

On the 28th of February this price/volume trend continued, the index went up by 60 basis points and the trade volume lost 6.67%, that confirms how investors were not caring about the Italian stock exchange. Those big movements preceding the introduction of the tax did not make the market collapsed on the 1st of March, since many investors have traded during the prior days in order to avoid the fees.

8. Conclusions

The effectiveness of the FTT has been widely discussed since its first proposal to the last studies of the early XXI century. Supporters argue that such tax contributes to the public finances and decreases volatility, whereas opponents claim is harmful since speculators will trade products outside the tax range and move to cheaper markets.

This work examined the Italian financial transaction tax using reports from the MEF to assess its incidence on the revenues since its introduction. Furthermore the impact on the financial market was studied using three time series data from October 2011 to March 2013 to evaluate how stock prices of Italian banks reacted to the FTT.

The big overview on the Italian market was given through observing the FTSE MIB volume around the fundamental events of the FTT.

According to the model and data used, the FTT had a negative impact in Italy, both on revenues and market. The Italian stock exchange, which was already suffering the crisis, became even less attractive after the FTT came into force.

This conclusion is reached crossing the data used. Since the tax made the market expensier, the investors went somewhere else and as consequence the volume decreased causing 1) less transactions to tax, meaning less revenues, and 2) disinterest on Italian companies, meaning fall of stocks prices.

The idea behid the Italian FTT was fair, collect extra revenues on the VAT-free financial services to relaunch the economy. What went wrong was how and when the tax came into force. The European Commission is trying unsuccessfully to implement a FTT since 2011, Germany is postponing its introduction and France, which was the first European country to adopt it, has disappointing results. The European single market, is

one of the EU's greatest achievements[7] where people, goods and services can interact freely within the member stastes. That, along with the new technology, cause the failure of the FTT. The capital can move without significant limits from country to country and since buying Italian securities is not mandatory, was so predictable that investors would have left the *Borsa Italiana* to more profitable investments.

According to a study of Credit Suisse[8], after the FTT introduction Italy became the third most expensive maket to trade in Europe. Moreover, this study claims the financial transaction tax has not reduced the volatility. In fact, during the first six days the tax was introduced the volatility was in line with the previous levels. The current Italian FTT could be seen as a disincentive to invest in Italian companies and its costs are being passed to end users. As Tobin said only if the tax is implemented on international level, with a small tax rate and a broad tax base, the financial transaction tax will lead to the results chased by the economist.

A future study may include all the Italian companies listed in Milan as well as run the regression analysis adding a disturbance term to make the model even more realistic. Additionally, a comparison of outcomes from differents FTTs using the same methodology could provide suggestions for future research on the tax design.

[7] European Commission, The European single market, http://ec.europa.eu/growth/single-market

[8] Credit Suisse, Trade Strategy: Impact of the Italian Financial Transaction Tax, 15 March 2013

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Appendix

Table I – Comparison of national FTTs

This table compares the Europeans FTTs to the Italian tax. For France, Hungary and Sweden the conclusions are taken from the studies quoted in chapter 3.

Country	Incidence	Tax rates	Exemptions	Conclusions
Italy	• Equity • HFT • Derivatives	• 0.1% - 0.2% • 0.02% • from € 0.0038 to 200 per party	• Transactions on the primary market • Inheritance/donation of shares • Temporary purchase	• Revenues much below forecast • Negative impact on market
France	• Equity • HFT • CDS	• 0.02% • 0.01% • 0.01%	• Transactions on the primary market • Transactions by clearing houses and CSDs • Intra-group transactions • Convertible bonds	• Revenues much below forecast • Negative impact on market
Hungary	• Bank transafers • Currency exchange • Cash withdrawals	• 0.3% • 0.3% • 0.6%	• Transfers between accounts of the same person	• Revenues much below forecast
Sweden	• Equity • Bonds • Derivatives	• 1% • from 0.002% to 0.03% • 0.15%	• Conversions of warrants to equity • Forward rate agreements	• Revenues much below forecast • Negative impact on market

Table II

The due amount on derivatives

		Notional value of the transaction in EUR '000							
Financial instrument	**Market**	*0-2.5*	*2.5-5*	*5-10*	*10-50*	*50-100*	*100-500*	*500-1000*	*> 1000*
Futures, certificates, covered warrants, options on share-related yields, parameters and indexes	Regulated	0.0038	0.008	0.02	0.08	0.15	0.75	1.5	3
	Unregulated	0.0188	0.038	0.08	0.38	0.75	3.75	7.5	15
Futures, warrants, certificates, covered warrants, options on shares	Regulated	0.025	0.05	0.1	0.5	1	5	10	20
	Unregulated	0.125	0.25	0.5	2.5	5	25	50	100
Swap agreements on shares and share-related yields, parameters and indexes. Forward agreements on shares and share-related yields, parameters and indexes. Differential financial agreements on shares and share-related yields, parameters and indexes. Any other transaction involving a cash payment determined with reference to shares, share-related yields, parameters and indexes. Combinations of agreements and securities above mentioned.	Regulated	0.05	0.1	0.2	1	2	10	20	40
	Unregulated	0.25	0.5	1	5	10	50	100	200

Source: FinecoBank

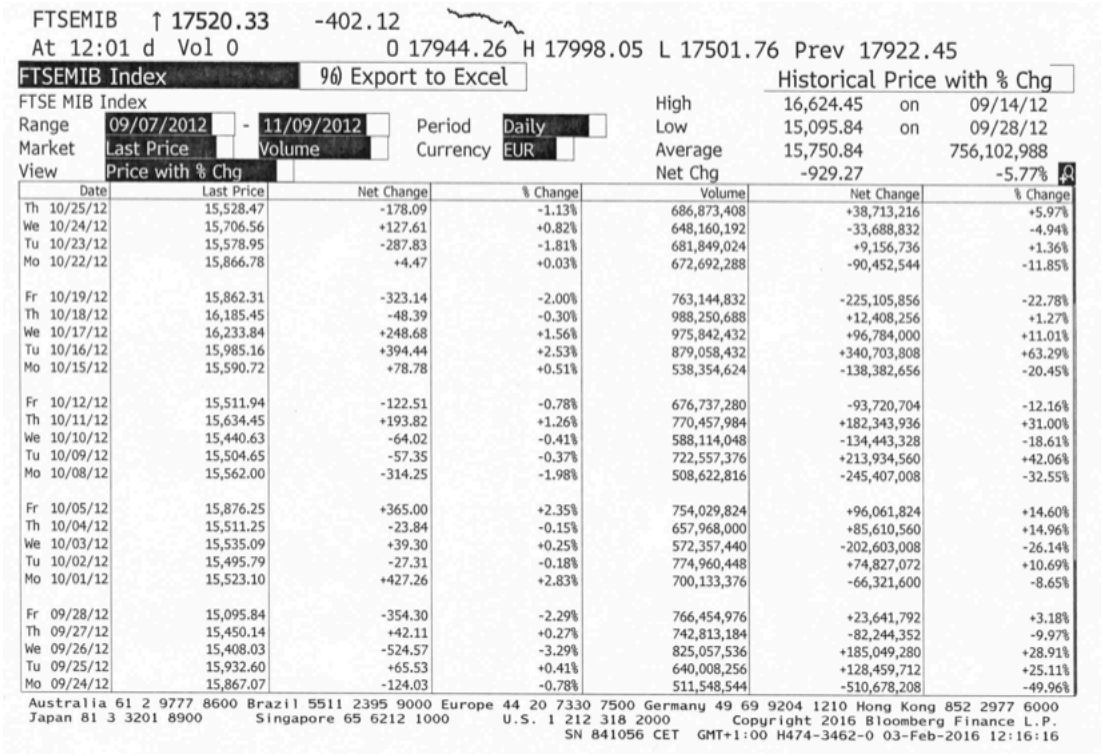
Table III

The revenues of the FTT (in EUR million)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Tot
2013										159	57	44	260
2014	25	33	28	36	36	38	40	35	24	29	37	40	401
2015	30	29	39	46	43	38	47	41	33	41	47	46	480

Source: Ministero dell'Economia e delle Finanze, Dipartimento delle Finanze

Figure I
The trade volume of the FTSE MIB in October 2012



FTSEMIB ↑ 17520.33 -402.12
At 12:01 d Vol 0 O 17944.26 H 17998.05 L 17501.76 Prev 17922.45

FTSEMIB Index | Export to Excel | Historical Price with % Chg

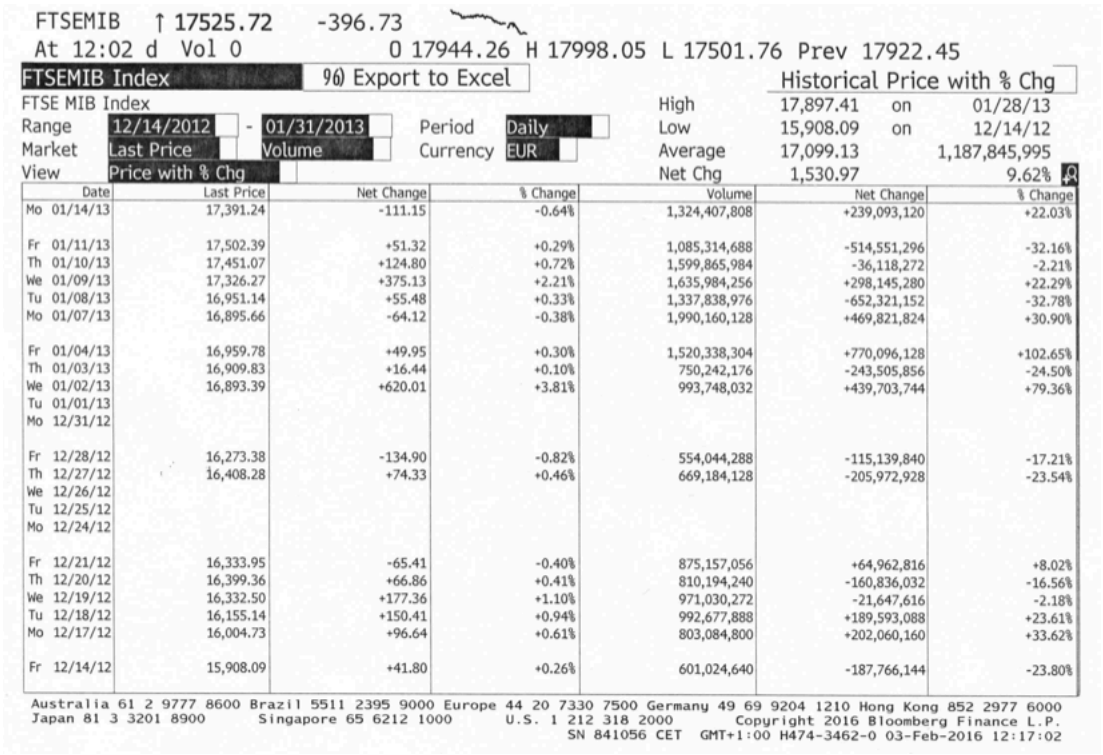
FTSE MIB Index
Range 09/07/2012 - 11/09/2012 Period Daily
Market Last Price Volume Currency EUR
View Price with % Chg

High	16,624.45 on 09/14/12
Low	15,095.84 on 09/28/12
Average	15,750.84 756,102,988
Net Chg	-929.27 -5.77%

Date	Last Price	Net Change	% Change	Volume	Net Change	% Change
Th 10/25/12	15,528.47	-178.09	-1.13%	686,873,408	+38,713,216	+5.97%
We 10/24/12	15,706.56	+127.61	+0.82%	648,160,192	-33,688,832	-4.94%
Tu 10/23/12	15,578.95	-287.83	-1.81%	681,849,024	+9,156,736	+1.36%
Mo 10/22/12	15,866.78	+4.47	+0.03%	672,692,288	-90,452,544	-11.85%
Fr 10/19/12	15,862.31	-323.14	-2.00%	763,144,832	-225,105,856	-22.78%
Th 10/18/12	16,185.45	-48.39	-0.30%	988,250,688	+12,408,256	+1.27%
We 10/17/12	16,233.84	+248.68	+1.56%	975,842,432	+96,784,000	+11.01%
Tu 10/16/12	15,985.16	+394.44	+2.53%	879,058,432	+340,703,808	+63.29%
Mo 10/15/12	15,590.72	+78.78	+0.51%	538,354,624	-138,382,656	-20.45%
Fr 10/12/12	15,511.94	-122.51	-0.78%	676,737,280	-93,720,704	-12.16%
Th 10/11/12	15,634.45	+193.82	+1.26%	770,457,984	+182,343,936	+31.00%
We 10/10/12	15,440.63	-64.02	-0.41%	588,114,048	-134,443,328	-18.61%
Tu 10/09/12	15,504.65	-57.35	-0.37%	722,557,376	+213,934,560	+42.06%
Mo 10/08/12	15,562.00	-314.25	-1.98%	508,622,816	-245,407,008	-32.55%
Fr 10/05/12	15,876.25	+365.00	+2.35%	754,029,824	+96,061,824	+14.60%
Th 10/04/12	15,511.25	-23.84	-0.15%	657,968,000	+85,610,560	+14.96%
We 10/03/12	15,535.09	+39.30	+0.25%	572,357,440	-202,603,008	-26.14%
Tu 10/02/12	15,495.79	-27.31	-0.18%	774,960,448	+74,827,072	+10.69%
Mo 10/01/12	15,523.10	+427.26	+2.83%	700,133,376	-66,321,600	-8.65%
Fr 09/28/12	15,095.84	-354.30	-2.29%	766,454,976	+23,641,792	+3.18%
Th 09/27/12	15,450.14	+42.11	+0.27%	742,813,184	-82,244,352	-9.97%
We 09/26/12	15,408.03	-524.57	-3.29%	825,057,536	+185,049,280	+28.91%
Tu 09/25/12	15,932.60	+65.53	+0.41%	640,008,256	+128,459,712	+25.11%
Mo 09/24/12	15,867.07	-124.03	-0.78%	511,548,544	-510,678,208	-49.96%

Source: Bloomberg L.P.

Figure II
The trade volume of the FTSE MIB in December 2012



FTSEMIB ↑ 17525.72 -396.73
At 12:02 d Vol 0 O 17944.26 H 17998.05 L 17501.76 Prev 17922.45

FTSEMIB Index | Export to Excel | Historical Price with % Chg

FTSE MIB Index
Range 12/14/2012 - 01/31/2013 Period Daily
Market Last Price Volume Currency EUR
View Price with % Chg

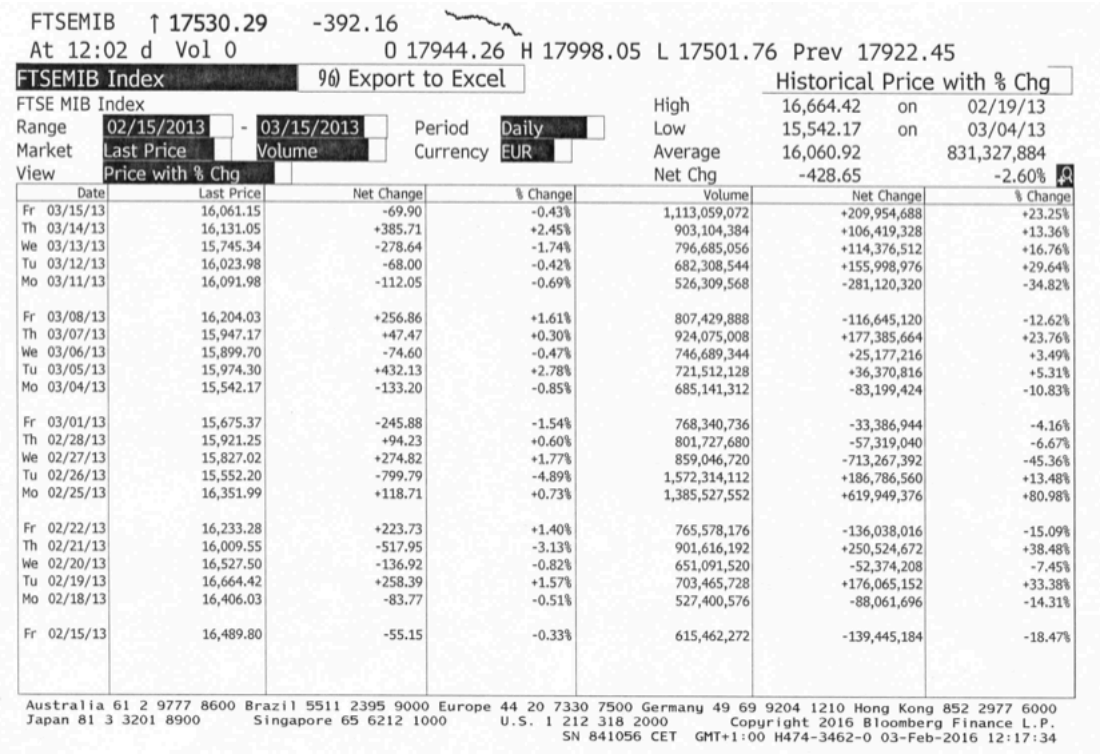
High	17,897.41 on 01/28/13
Low	15,908.09 on 12/14/12
Average	17,099.13 1,187,845,995
Net Chg	1,530.97 9.62%

Date	Last Price	Net Change	% Change	Volume	Net Change	% Change
Mo 01/14/13	17,391.24	-111.15	-0.64%	1,324,407,808	+239,093,120	+22.03%
Fr 01/11/13	17,502.39	+51.32	+0.29%	1,085,314,688	-514,551,296	-32.16%
Th 01/10/13	17,451.07	+124.80	+0.72%	1,599,865,984	-36,118,272	-2.21%
We 01/09/13	17,326.27	+375.13	+2.21%	1,635,984,256	+298,145,280	+22.29%
Tu 01/08/13	16,951.14	+55.48	+0.33%	1,337,838,976	-652,321,152	-32.78%
Mo 01/07/13	16,895.66	-64.12	-0.38%	1,990,160,128	+469,821,824	+30.90%
Fr 01/04/13	16,959.78	+49.95	+0.30%	1,520,338,304	+770,096,128	+102.65%
Th 01/03/13	16,909.83	+16.44	+0.10%	750,242,176	-243,505,856	-24.50%
We 01/02/13	16,893.39	+620.01	+3.81%	993,748,032	+439,703,744	+79.36%
Tu 01/01/13						
Mo 12/31/12						
Fr 12/28/12	16,273.38	-134.90	-0.82%	554,044,288	-115,139,840	-17.21%
Th 12/27/12	16,408.28	+74.33	+0.46%	669,184,128	-205,972,928	-23.54%
We 12/26/12						
Tu 12/25/12						
Mo 12/24/12						
Fr 12/21/12	16,333.95	-65.41	-0.40%	875,157,056	+64,962,816	+8.02%
Th 12/20/12	16,399.36	+66.86	+0.41%	810,194,240	-160,836,032	-16.56%
We 12/19/12	16,332.50	+177.36	+1.10%	971,030,272	-21,647,616	-2.18%
Tu 12/18/12	16,155.14	+150.41	+0.94%	992,677,888	+189,593,088	+23.61%
Mo 12/17/12	16,004.73	+96.64	+0.61%	803,084,800	+202,060,160	+33.62%
Fr 12/14/12	15,908.09	+41.80	+0.26%	601,024,640	-187,766,144	-23.80%

Source: Bloomberg L.P.

Figure III

The trade volume of the FTSE MIB in March 2013



FTSEMIB ↑ 17530.29 -392.16
At 12:02 d Vol 0 O 17944.26 H 17998.05 L 17501.76 Prev 17922.45

FTSEMIB Index | Export to Excel | Historical Price with % Chg

FTSE MIB Index
Range 02/15/2013 - 03/15/2013 Period Daily
Market Last Price Volume Currency EUR
View Price with % Chg

High 16,664.42 on 02/19/13
Low 15,542.17 on 03/04/13
Average 16,060.92 831,327,884
Net Chg -428.65 -2.60%

Date	Last Price	Net Change	% Change	Volume	Net Change	% Change
Fr 03/15/13	16,061.15	-69.90	-0.43%	1,113,059,072	+209,954,688	+23.25%
Th 03/14/13	16,131.05	+385.71	+2.45%	903,104,384	+106,419,328	+13.36%
We 03/13/13	15,745.34	-278.64	-1.74%	796,685,056	+114,376,512	+16.76%
Tu 03/12/13	16,023.98	-68.00	-0.42%	682,308,544	+155,998,976	+29.64%
Mo 03/11/13	16,091.98	-112.05	-0.69%	526,309,568	-281,120,320	-34.82%
Fr 03/08/13	16,204.03	+256.86	+1.61%	807,429,888	-116,645,120	-12.62%
Th 03/07/13	15,947.17	+47.47	+0.30%	924,075,008	+177,385,664	+23.76%
We 03/06/13	15,899.70	-74.60	-0.47%	746,689,344	+25,177,216	+3.49%
Tu 03/05/13	15,974.30	+432.13	+2.78%	721,512,128	+36,370,816	+5.31%
Mo 03/04/13	15,542.17	-133.20	-0.85%	685,141,312	-83,199,424	-10.83%
Fr 03/01/13	15,675.37	-245.88	-1.54%	768,340,736	-33,386,944	-4.16%
Th 02/28/13	15,921.25	+94.23	+0.60%	801,727,680	-57,319,040	-6.67%
We 02/27/13	15,827.02	+274.82	+1.77%	859,046,720	-713,267,392	-45.36%
Tu 02/26/13	15,552.20	-799.79	-4.89%	1,572,314,112	+186,786,560	+13.48%
Mo 02/25/13	16,351.99	+118.71	+0.73%	1,385,527,552	+619,949,376	+80.98%
Fr 02/22/13	16,233.28	+223.73	+1.40%	765,578,176	-136,038,016	-15.09%
Th 02/21/13	16,009.55	-517.95	-3.13%	901,616,192	+250,524,672	+38.48%
We 02/20/13	16,527.50	-136.92	-0.82%	651,091,520	-52,374,208	-7.45%
Tu 02/19/13	16,664.42	+258.39	+1.57%	703,465,728	+176,065,152	+33.38%
Mo 02/18/13	16,406.03	-83.77	-0.51%	527,400,576	-88,061,696	-14.31%
Fr 02/15/13	16,489.80	-55.15	-0.33%	615,462,272	-139,445,184	-18.47%

Source: Bloomberg L.P.